DOCUMENT RESUME

ED 101 437

AUTHOR Kracht, James B.

TITLE The Application of Models to the Planning Process

with Special Emphasis on Land Use. Exchange

Bibliography No. 194.

INSTITUTION Council of Planning Librarians, Monticello, Ill.

PUB DATE Jun 71
NOTE 20pa

AVAILABLE FROM Council of Planning Librarians, P.O. Box 229,

Monticello, Illinois (\$2.00)

EDRS PRICE MF-\$0.76 HC-\$1.58 PLUS POSTAGE

DESCRIPTORS *Bibliographies; City Planning; *Land Use; *Models;

*Planning: Prediction: Simulation: *Transportation

ABSTRACT

The use of quantitative predictive models has become increasingly important to urban and regional planners within the past decade. The increasing sophistication of urban and regional information systems and of ha 'ware devices has helped to make possible the acceptance and application of models by planners. The sources contained in this bibliography relate primarily to land use models and transportation models which have implications for land use. (Author/MLF)



194

June 1971

THE APPLICATION OF MODELS TO THE PLANNING PROCESS WITH SPECIAL EMPHASIS ON LAND USE

James B. Kracht Research Assistant, Department of Geography, University of Denver

U DELANTON AL GIOLOGIA
DIO AL DES ARTHURE
NATIONAL DELATIONE
LE DIO ALTON
LE DIO AL

BEST COPY, AVAILABILE

EA GG6 71

Mrs. Mary Vance, Editor Post Office Box 229 Monticello, Illinois 61856



THE APPLICATION OF MODELS TO THE PLANNING PROCESS WITH SPECIAL FMPHASIS ON LAND USE

by

REST COPY AVAILABLE

James B. Kracht
Research Assistant
Department of Geography
University of Denver

INTRODUCTION

The use of quantitative predictive models has become increasingly important to urban and regional planners within the past decade. The increasing sophistication of urban and regional information systems and of hardware devices has helped to make possible the acceptance and application of models by planners.

This bibliography has been prepared in connection with on-going research at the University of Denver. The sources contained in it relate primarily to land use models and transportation models which have implications for land use. The bibliography is not intended to be exhaustive in its coverage of the literature. It is merely a composite of those sources which have proven helpful and informative to the author. It is the hope of the author that these models which have been developed through research efforts throughout the U.S. may have the effect of stimulating more research and applications of models in the planning process.



Basic Sources:

- Alonso, William. Location and Land Use: Toward a General Theory of Land Rent (Cambridge: Harvard University Press), 1964.
- Artle, Roland. The Structure of the Stockholm Economy (Ithaca: Cornell University Press), 1965.
- Berry, Brian J. L. Geography of Market Centers and Retail Distribution (Englewood Cliffs, New Jersey: Prentice-Hall, Inc.), 1967.
- ______, and D. F. Marble. <u>Spatial Analysis: A Reader in Statistical Geography</u> (Englewood Cliffs, New Jersey: Prentice-Hall, Inc.), 1968.
- Burgess, Ernest W. "The Growth of the City," in The City (Chicago: University of Chicago Press), 1925, pp. 47-62.
- Chapin, F. Stuart, Jr. "Land Use Perspectives," in <u>Urban Land Use Planning</u> (Urbana: University of Illinois Press), 1965, pp. 7-68.
- University of Illinois Press), 1965, pp. 457-487.
- Use Planning (Urbana: University of Illinois Press), 1965, pp. 69-99.
- Cluster of Cities (New York: John Wiley & Sons, Inc.), 1962.
- Curry, Leslie. "The Geography of Service Centers within Towns: The Elements of an Operational Approach," <u>Lund Studies in Geography</u>, Series B, <u>Human Geography</u>, No. 24, 1962, pp. 31-54.
- Garrison, William L. "Toward a Simulation Model of Urban Growth and Development," <u>Lund Studies in Geography</u>, Series B, Human Geography, No. 24 (Lund), 1962.
- Gibbs, Jack P. <u>Urban Research Methods</u> (Princeton, New Jersey: D. Van Nostrand Co., Inc.), 1961.
- Hägerstrand, Torsten. "On Monte Carlo Simulation of Diffusion," in William L. Garrison, Quantitative Geography (New York: Atherton).
- Haggett, Peter. Location Analysis in Human Geography (London: Edward Arnold (Publishers) Ltd.), 1965.
- Geography, in R. J. Chorley and P. Haggett, Models in Geography (London: Methuen & Co., Ltd.), 1967, pp. 19-41.
- Harris, Britton. "Quantitative Models of Urban Development: Their Role in Policy-Making," <u>Issues in Urban Economics</u>. Harvey Perloff and Lowden Wingo, eds. (Baltimore: The Johns Hopkins Press), 1968.

- Harvey, D. "Models of the Evolution of Spatial Patterns in Human Geography," R. J. Chorley and P. Haggett, eds., Models in Geography (London: Methuen & Co., Ltd.), 1967, pp. 549-608.
- Hoover, Edgar M. Location of Economic Activity (New York: McGraw-Hill), 1948.
- New York: Doubleday), 1962.

 Anatomy of a Metropolis (Garden City,
- Hoyt, Homer. One Hundred Years of Land Values in Chicago (Chicago: University of Chicago Press), 1933.
- American Cities (Washington, D.C.: Federal Housing Administration), 1939.
- Isard, Walter. Location and Space Economy (New York: The Technology Press of M.I.T. and John Wiley and Sons), 1956.
- Keeble, D. E. 'Models of Economic Development," in R. J. Chorley and P. Haggett, eds., Models in Geography (London: Methuen & Co., Ltd.), 1967, pp. 243-302.
- Losch, August. The Economics of Location (Yale University Press), 1954.
- Lowry, Ira S. A Model of Metropolis (Santa Monica: The Rand Corporation), August 1964.
- Luttrell, W. F. <u>Factory Location and Industrial Movement</u> (London: National Institute of Economic and Social Research), 1962.
- Mayfield, R. C. "Conformation of Service and Retail Activities: An Example in Lower Orders of an Urban Hierarchy in a Lesser Developed Area,"

 <u>Lund Studies in Geography, Series B. Human Geography</u>, No. 24 (Lund),
 1962, pp. 77-90.
- Meier, Richard L. A Communications Theory of Urban Growth (Cambridge: The M.I.T. Press), 1962.
- Morrill, Richard L. "Simulation of Central Place Patterns Over Time," <u>Lund Studies in Geography</u>, Series B, Human Geography, No. 24 (Lund), 1962, pp. 109-120.
- Parzen, Emanuel. Stochastic Processes (San Francisco: Holden-Day), 1962.
- Ratcliff, Richard U. <u>Urban Land Economics</u> (New York: McGraw-Hill Book Company), 1949.
- Reilly, William J. The Law of Retail Gravitation (New York: Knickerbocker Press), 1931.
- Stewart, J. Q. "Potential of Population and Its Relationship to Marketing," in Reavis Cox and Wroe Adlerson (eds.) Theory in Marketing (Chicago: Richard D. Irwin), 1950.



- Törnquist, Gunnar. "Flows of Information and the Location of Economic Activities," <u>Lund Studies in Geography</u>: <u>Series B. Human Geography</u>, No. 30 (Lund), 1968.
- Vance, James E., Jr. "Emerging Patterns of Commercial Structure in American Cities," <u>Lund Studies in Geography</u>: <u>Geries B. Human Geography</u>, No. 24 (Lund), 1962, pp. 485-518.
- Webber, Melvin M., et al. <u>Exploration into the Urban Structure</u> (Philadelphia: University of Pennsylvania Press), 1964.
- Wingo, Lowdon, Jr. <u>Transportation and Urban Land</u> (Washington, D.C.: Resources for the Future, Inc.), 1961.
- Ziph, George K. <u>Human Behavior and the Principle of Least Effort</u> (Cambridge, Massachusetts: Addison-Wesley), 1949.

Articles:

- Alonso, William. "A Theory of the Urban Land Market," Papers and Proceedings of the Regional Science Association, VI (1960), pp. 149-157.
- Implications for Urban Renewal," <u>Land Economics</u>, XL (May 1964), pp. 227-31.
- Anderson, Theodore R. "Potential Models and Spatial Distribution of Population," Papers and Proceedings, Regional Science Association, II (1956).
- Aschman, Frederick T. "Dead Land," Land Economics, XXV (August 1949), pp. 240-245.
- Barnes, Charles F., Jr. 'Integrating Land Use and Traffic Forecasting,"

 <u>Highway Research Board Bulletin #297</u>, Washington, D.C. (1961), pp. 1-3.
- Berkman, Herman G. 'Decentralized and Blighted Vacant Land," Land Economics, XXXII (August 1956), pp. 270-280.
- . "The Game Theory of Land Use Determination," Land Economics, XLI (February 1965), pp. 11-20.
- Berry, B. J. L. "Ribbon Developments in the Urban Business Pattern," Annals of the Association of American Geographers, XLIX (1959), pp. 145-155.
- Planners, XXXI (May 1965), pp. 150-155.
- Behavior," Papers and Proceedings of the Regional Science Association, IX (1962), pp. 65-106.



- Bevis, Howard W. "A Method for Predicting Urban Travel Patterns," <u>Journal of American Institute of Planners</u>, XXV (May 1959), pp. 87-89.
- Blumenfeld, Hans. "Are Land Use Patterns Predictable?" Journal of American Institute of Planners, XXV (May 1959), pp. 61-66.
- . "On the Concentric-Circle Theory of Urban Growth," Land Economics, XXV (May 1959), pp. 208-212.
- . "The Tidal Wave of Metropolitan Expansion," <u>Journal of American</u>
 <u>Institute of Planners</u>, XX (Winter 1954), pp. 3-14.
- Branch, Melville C. "Simulation, Mathematical Models, and Comprehensive City Planning," <u>Urban Affairs Quarterly</u>, I (March 1966).
- Brand, Daniel; Brian Barber; and Jacobs. "Technique for Relating Transportation Improvement and Urban Development Patterns," <u>Highway Research</u>
 <u>Record No. 207</u>, Washington, D.C., Highway Research Board (1967).
- Brigham, E. F. "The Determinants of Residential Land Values," <u>Land Economics</u>, XLI (November 1965), pp. 325-334.
- Burns, Leland S., and Frank G. Mittlebach. "Location-Fourth Determinant of Residential Value," <u>The Appraisal Journal</u>, XXXII (April 1964), pp. 237-246.
- Calland, William B. "Forecasting Traffic for Freeway Planning, <u>Journal of American Institute of Planners</u>, XXV (May 1959), pp. 82-86.
- Carroll, J. Douglas. "Spatial Interaction and the Urban Metropolitan Description," <u>Traffic Quarterly</u>, IX (April 1955), pp. 149-161.
- Carrothers, Gerald A. P. "A Historical Review of the Gravity and Potential Concepts of Human Interaction," <u>Journal of American Institute of Planners</u>, XXII (May 1956), pp. 94-102.
- Casparis, John. "Metropolitan Retail Structure and Its Relation to Population," <u>Land Economics</u>, XLIII (May 1967), pp. 212-218.
- Chapin, Stuart. "Activity Systems and Urban Structure: A Working Schema,"

 The Journal of the American Institute of Flanners, XXXIV (January 1968),
 pp. 11-18.
- . "A Model for Simulating Residential Growth," <u>Journal of American</u>
 <u>Institute of Planners</u>, XXXI (May 1965), pp. 120-125.
- of American Institute of Planners, XXIX (May 1963), pp. 76-86.
- Clark, Colin. "Population Movements into the Outer Suburbs of Large Cities-Measurement and Prediction," Report of Proceedings. Town and Country
 Planning Summer School, University of Bristol, London: Town Planning
 Institute (1953).
- Society, Series A, CXIV, Pt. 4 (1951), pp. 490-496.



6.

- Processing for City Planning," <u>Journal of American Institute of Planners</u>, XXV (May 1959), pp. 96-103.
 - Czamanski, Stanislaw. "A Model of Urban Growth," Papers and Proceedings of the Regional Science Association, VIII (1964), pp. 117-200.
 - Dacey, Michael F. "Analysis of Central Place and Point Patterns by a Nearest Neighbor Method," <u>Proceedings</u> of the IGU Symposium on Urban Geography, Lund (1960), pp. 55-76.
 - Davies, Wayne K. D. "The Morphology of Central Place: A Case Study," Annals of the Association of American Geographers, LVIII (March 1968), pp. 91-110.
 - de Cani, John S. "On the Construction of Stochastic Models of Population Growth and Migration," <u>Journal of Regional Science</u>, III (Winter 1961), pp. 1-13.
 - Duncan, Beverly; G. Sabagh; and Van Arsdal. "Patterns of City Growth,"

 American Journal of Sociology, LXVII (1961-62), pp. 418-29.
 - Ellis, Raymond H. "Modeling of Household Location: A Statistical Approach," <u>Highway Research Record, No. 207</u>, Washington, D.C., Highway Research Board (1967).
 - Fidler, Jere. "Commercial Activity Location Model," <u>Highway Research Record</u>
 No. 207, Washington, D.C., Highway Research Board (1967).
 - Fuchs, Victor R. "The Determinants of the Redistribution of Manufacturing in the United States Since 1929," Review of Economics and Statistics (May 1962), pp. 167-78.
 - Garrison, W. L. "Urban Transportation Models in 1975," <u>Journal of American</u>
 <u>Institute of Planners</u>, XXXI (May 1965), pp. 156-158.
 - Getis, Arthur. The Determination of the Location of Retail Activities with the Use of a Map Transformation," <u>Economic Geography</u>, XXXIX (1963), pp. 1-22.
 - Goldberg, Michael A. "Transportation, Urban Land Values, and Rents: A Synthesis," Land Economics, XLVI (May 1970), pp. 153-162.
 - Graves, Charles H. "Two Multiple Regression Models of Small-Area Population Change," <u>Highway Research Record No. 102</u>, Washington, D.C., Highway Research Board (1965).
 - Grey, Arthur L., Jr. "Los Angeles: Urban Prototype," Land Economics, XXXV (August 1959), pp. 232-242.
 - Guttenberg, Albert Z. "Urban Structure and Urban Growth," <u>Journal of American</u>
 <u>Institute of Planners</u>, XXVI (May 1960), pp. 104-110.



- Hamburg, John R., and Roger I. Creighton. "Predicting Chicago's Land Use Pattern," <u>Journal of American Institute of Planners</u>, XXV (May 1959), pp. 67-72.
- Hansen, Walter G. "How Accessibility Shapes Land Use, <u>Journal of American</u> Institute of Planners, XXV (May 1959), pp. 73-76.
- Hansen, Willard B. "An Approach to the Analysis of Metropolitan Residential Extension," <u>Journal of Regional Science</u>, III (1961), pp. 37-56.
- Harris, Britton. "Plan or Projection: An Examination of the Use of Models in Planning," <u>Journal of American Institute of Planning</u>, XXVI (November 1960), pp. 265-272.
- Highway Research Record No. 124, Washington, D.C., Highway Research Board (1966).
- Harris, Chauncey D., and Edward L. Ullman. "The Nature of Cities," Annals of the American Academy of Political and Social Science, CCXLII (1945), pp. 7-17.
- Harvey, Robert O., and W. A. V. Clark. "The Nature and Economics of Urban Sprawl," Land Economics, XLI (February 1965), pp. 1-10.
- Hayes, C. R., and N. W. Schul. "Some Characteristics of Shopping Centers," Professional Geographer, XVII (November 1965), pp. 11-14.
- Herbert, John D., and Benjamin Stevens. "A Model of the Distribution of Residential Activity in Urban Areas," <u>Journal of Regional Science</u>, II (Fall 1960), pp. 21-36.
- Hill, Donald M. "A Growth Allocation Model for the Boston Region," <u>Journal of American Institute of Planning</u>, XXXI (May 1965), pp. 111-120.
- _____, and Daniel Brand. 'Methodology for Developing Activity Distribution Models by Linear Regression Analysis," <u>Highway Research Record No. 126</u>, Washington, D.C.: Highway Research Board (1966).
- Statistical Land-Use Prediction Model for Greater Boston Region,"

 Highway Research Record No. 114, Washington, D.C.: Highway Research
 Board (1966).
- Hooper, J. W., and Arnold Zellner. "The Error of Forecast for Multivariate Regression Models," <u>Econometrica</u>, XXIX (October 1961), pp. 544-555.
- Horwood, Edgar M. "A Three-Dimensional Calculus Model of Urban Settlement," <u>Highway Research Board Bulletin No. 347</u>, Washington, D.C.: Highway Research Board (1962), pp. 143-146.
- Hoyt, Homer. "Char.ging Patterns of Land Values," Land Economics, XXXVI (May 1960), pp. 109-117.



- Hoyt, Homer. "Is City Growth Controlled by Mathematics or Physical Laws?"

 <u>Land Economics</u>, XXVII (August 1951), pp. 259-262.
- . "Recent Distortions of the Classical Models of Urban Structure," Land Economics, XL (May 1964), pp. 199-212.
- Traffic Quarterly, XVII (April 1963), pp. 292-301.
- Huff, David I.. "A Probabilistic Analysis of Shopping Center Trade Areas,"

 <u>Laid Economics</u>, XXXIX (1963), pp. 81-90.
- "A Topographical Model of Consumer Space Preferences," Papers of the Regional Science Association, VI (1960), pp. 159-173.
- Irwin, N. A. "Review of Existing Land-Use Forecasting Techniques," <u>Highway</u>
 <u>Fesearch Record No. 88</u>, Washington, D.C.: Highway Research Board (1965).
- , and Daniel Brand. "Planning and Forecasting Metropolitan Development," Traffic Quarterly, XIX (October 1965), pp. 520-540.
- Isard, Walter. "Game Theory, Location Theory and Industrial Agglomeration,"
 Papers, Regional Science Association, XVIII (1967), pp. 1-11.
- Jándy, Géza. "Problems of Location in Operations Research Models," <u>Papers</u>, Regional Science Association, XXII (1969), pp. 195-202.
- Kain, J. F. "A Contribution to the Urban Transportation Debate: An Econometric Model of Urban Residential and Travel Behavior, Review of Economics and Statistics, XLIII (February 1964), pp. 55-64.
- Kaiser, Edward J. "Locational Decision Factors in a Producer Model of Residential Development," <u>Land Economics</u>, XLIV (August 1968), pp. 351-362.
- Koopmans, J. C., and M. Beckman. "Assignment Problems and the Location of Economic Activity," Econometrica, XXV (January 1957), pp. 53-76.
- Lakshmanan, T. R. "An Approach to the Analysis of Infraurban Location Applied to the Baltimore Region," <u>Economic Geography</u>, XL (1964), pp. 348-370.
- ______, and Walter G. Hansen. "A Retail Market Potential Model,"

 Journal of American Institute of Planners, XXXI (May 1965), pp. 134-143.
- Planning Problem, Highway Research Record No. 102, Washington, D.C., Highway Research Board (1965).
- Lathrop, George T., and John R. Hamburg. "An Opportunity-Accessibility Model for Allocating Regional Growth," <u>Journal of American Institute of Planners</u>, XXXI (May 1965), pp. 95-103.
- ______, and G. Frederick Young. "Opportunity Accessibility Model for Allocating Regional Growth," <u>Highway Research Record No. 102</u>, Washington, D.C., Highway Research Board (1965).



- Leven, Charles L. "Determinants of the Size and Spatial Form of Urban Areas,"
 Papers, Regional Science Association, XXII (1968), pp. 7-28.
- Loewenstein, L. K. "Community and the Cost of Housing in Philadelphia,"
 Penn-Jersey Transportation Study, <u>Traffic Quarterly</u>, XVII (April 1963),
 pp. 302-319.
- (November 1963), pp. 407-420.
- "The Location of Urban Land Uses: A Rejoinder," Land Economics, XLIII (May 1967), pp. 238-239.
- Lowry, Ira S. "A Short Course in Model Design," <u>Journal of American Institute</u> of Planners, XXXI (1965), pp. 158-166.
- Lynch, Kevin and Lloyd Rodwin. "A Theory of Urban Form," <u>Journal of American</u> <u>Institute of Planners</u>, XXIV (November 1958), pp. 201-214.
- Malm, Roger; Gunnar Olsson, and Lof Warneryd. "Approaches to Simulations of Urban Growth," Geografiska Annaler, XLVIII, Series B, pp. 9-22.
- Mills, Edwin S. "Transportation and Patterns of Urban Development: An Aggregative Model of Resource Allocation in a Metropolitan Area," American Economic Review, LVII (May 1967), pp. 197-222.
- Morrill, Richard L. "Expansion of the Urban Fringe: A Simulation Experiment," <u>Papers</u>, Regional Science Association, XV (1965), pp. 185-199.
- Review, LV (1965), pp. 339-361.
- Muth, Richard F. "Economic Change and Rural-Urban Land Use Conversions," Econometrica, XXIX (1961), pp. 1-23.
- "The Spatial Structure of the Housing Market," <u>Papers</u>, Regional Science Association, VII (1961).
- South Chicago, Papers, Regional Science Association, XV (1965), pp. 173-183.
- Newling, Bruce. "Urban Growth and Spatial Structure: Mathematical Models and Empirical Evidence," <u>Geographical Review</u>, LVI (April 1966), pp. 213-225.
- Pederson, Paul O. "Multivariate Models of Urban Development," <u>Socio-Economic Planning Sciences</u>, I (1967), pp. 101-116.
- Pendleton, William C. "Relation of Highway Accessibility to Urban Real Estate Values," Consequences of Highway Improvements, 5 Reports, Highway Research Record No. 16, Washington, D.C., Highway Research Board, (1963), pp. 14-23.



- Pendleton, William C. "Statistical Inference in Appraisal and Assessment Procedures," The Appraisal Journal, XXXIII (January 1965), pp. 73-82.
- Pred, Allen. "Industrialization, Initial Advantage and American Metropolitan Growth," Geographical Review, LV (1965), pp. 158-185.
- Annals of the AAG, LIV (1964), pp. 165-180.
- Putnam, Stephen H. "Intraurban Industrial Location Model Design and Implementation," <u>Papers</u>, Regional Science Association, XIX (1967), pp. 199-214.
- Ratcliff, Richard V. "Commentary: On Wendt's The y of Land Values," Land Economics, XXXIII (November 1957), pp. 360-362.
- Reeder, Leo G. "Industrial Location Trends in Chicago in Comparison to Population Growth," <u>Land Economics</u>, XXX (May 1954), pp. 177-182.
- of Decentralization," Land Economics, XXVIII (November 1952), pp. 369-372.
- Rice, Sheldon. "Transportation Economics in the Land-Use Development of Cities," <u>Traffic Quarterly</u>, XX (1966), pp. 393-404.
- Robinson, Ira M.; Harry B. Wolfe; and Robert L. Barringer. "A Simulation Model for Renewal Programming," <u>Journal of American Institute of Planners</u>, XXXI (May 1965), pp. 126-134.
- Rogers, Andrei. "A Stochastic Analysis of the Spatial Clustering of Retail Establishments," <u>Journal of the American Statistical Association</u>, LX (1965), pp. 1094-1103.
- View," Land Economics, XLIII (February 1967), pp. 108-112.
- Row, Arthur and Ernest Jurkat. "The Economic Forces Shaping I and Use Patterns," <u>Journal of American Institute of Planners</u>, XXV (May 1959), pp. 77-81.
- Schlager, Kenneth J. "A Land Use Plan Design Model," <u>Journal of American Institute of Planners</u>, XXXI (May 1965), pp. 103-111.
- Development Process," <u>Highway Research Record No. 126</u>, Washington, D.C., Highway Research Board, (1966).
- Planning Commission," Newsletter of the Transportation Planning Computer Program Exchange Group, I, No. 2, Washington, D.C.: U. S. Bureau of Public Roads (October 15, 1963.)
- Record, II, No. 1, Southeast Wisconsin Regional Planning Commission, (1964).



- Seyfried, War-on R. "The Centrality of Urban Land Values," <u>Land Economics</u>, XXXIX (August 1963), pp. 275-284.
- Simmons, J. M. "Descriptive Models of Urban Land Use," <u>Canadian Geographer</u>, IX (1965), pp. 170-173.
- Sinclair, R. ''Von Thunen and Urban Sprawl," Annals of the AAG, "VII (March 1967), pp. 72-87.
- Smith, P. J. "Calgary: A Study in Urban Pattern," <u>Economic Geography</u>, XXXVIII (1962), pp. 315-329.
- Stebelsky, Ihor. "The Location of Urban Land Uses: A Reply," Land Economics, XLIII (May 1967), pp. 232-237.
- Steger, Wilbur A. "The Pittsburgh Urban Renewal Simulation Model," <u>Journal of American Institute of Planners</u>, XXXI (May 1965), pp. 144-150.
- Stevens, B. H. and R. E. Coughlin. "A Note on Inter-Areal Linear Programming for a Metropolitan Region," <u>Journal of Regional Science</u>, I (Spring 1959).
- Swerdloff, Carl N. "Residential Density Structure: An Analysis and Forecast with Evaluation," <u>Highway Research Record No. 207</u>, Washington, D.C., Highway Research Board, (1967).
- Residential Land Use Models," <u>Kighway Research Record No. 126</u>, Washington, D.C., Highway Research Board, (1966).
- Thomas, Edwin. "Areal Association between Population Growth and Selected Factors in the Chicago Urbanized Area," <u>Economic Geography</u>, XXXVI (1960), pp. 158-170.
- LI (1961), pp. 400-411.
- Vance, James E., Jr. "Labor-Shed, Employment and Dynamic Analysis in Urban Geography," Economic Geography, XXXV 60), pp. 189-220.
- vonBöventer, Edwin. "Land Values and Spatial Structure: A Comparative Presentation of Agricultural, Urban and Tourist Location Theories," Papers, Regional Science Association, XVIII (1967), pp. 231-242.
- Voorhees, Alan M. "Development Patterns in American Cities," <u>Urban</u>
 <u>Transportation Planning: Concepts and Application, Highway Research</u>
 <u>Board Bulletin 293, Washington, D.C., Highway Research Board, (1961).</u>
- . "The Nature and Use of Models in City Planning," <u>Journal of American Institute of Planners</u>, XXV (May 1959), pp. 57-60.
- , et al. "Traffic Patterns and Land Use Alternatives," Trip to Characteristics and Traffic Assignment, Bulletin 347, Washington, D.C., Highway Research Board, (1962).



- Voorhees, Alan M.; G. E. Sharpe; and J. T. Stegmaier. "Shopping Habits and Travel Patterns," <u>Special Report 11-B</u>, Washington, D.C., Highway Research Board, (1955).
- Weiss, Shirley F.; and Thomas G. Donnelly. "Short Range Residential Forecasts for Testing Public Policy," <u>Traffic Quarterly</u>, XX (July 1966), pp. 384-392.
- Thomas G. Donnelly; and Edward J. Kaiser. "Land Value and Land Development Influence Factors: An Analytical Approach for Examining Policy Alternatives," Land Economics, XLII (May 1966), pp. 230-233.
- Wendt, Paul F. "Theory of Urban Land Values," <u>Land Economics</u>, XXXIII (August 1957), pp. 228-240.
- Wingo, Lowden, Jr. "An Economic Model of Urban Land for Residential Purposes," Papers and Proceedings, Regional Science Association, VII (1961), pp. 191-205.
- Winsborough, H. H. 'City Growth and City Structure,' Journal of Regional Science, IV (1962), pp. 35-49.
- Winston, Oliver C. "An Urbanization Pattern for the United States: Some Considerations for the Decentralization of Excellence," <u>Land Economics</u>, XLIII (February 1967), pp. 1-9.
- Winthrop, Henry. 'Modern Proposals for the Physical Decentralization of Community,' Land Economics, XLIII (February 1967), pp. 10-24.
- Wise, M. J. "On the Evolution of the Jewellery and Gun Quarters in Birmingham," <u>Institute of British Geographers</u>. <u>Publications</u>, XV (1949), pp. 57-72.
- Wood, W. F. "Use of Stratified Random Samples in Land Use Study," Annals of the AAG, XLV (1955), pp. 350-367.
- Yeates, M. "Some Factors Affecting the Spatial Distribution of Chicago Land Values, 1910-60," <u>Economic Geography</u>, XLI (1965), pp. 57-70.
- Yuill, Robert S. 'Spatial Behavior of Retail Customers: Some Empirical Measurements," <u>Geografiska Annaler</u>, XLIX (1967), pp. 105-116.

Monographs, Papers, and Reports:

- Almendinger, V. V. "Topics in the Regional Growth Model: 1," Pennsylvania-Jersey Transportation Study, <u>Pennsylvania-Jersey Paper No. 4</u>, Philadelphia: Delaware Valley Regional Planning Commission (April 1961).
- Artle, Roland. Studies in the Structure of the Stockholm Economy, Stockholm: The Business Research Institute at the Stockholm School of Economics, (1959).



- Berman, B. R.; Benjamin Chinitz; and Edgar M. Hoover. "Projection of a Metropolis," <u>Technical Supplement to the New York Metropolitan Region Study</u>, Cambridge: Harvard University (1960).
- Berry, B. J. L.; R. J. Tennant; B. J. Garner; and J. W. Simmons. "Commercial Structure and Commercial Blight," Research Paper No. 85, University of Chicago, Department of Geography (1963).
- Bolan, R. S.; W. B. Hansen; N. A. Irwin; and K. H. Deiter. "Planning Applications of a Simulation Model," Paper presented to New England Section of Regional Science Association (October 1963).
- Boyce, D. E., and R. W. Cote. "Verification of Land Use Forecasting Models: Procedures and Data Requirements," Forty-fifth Annual Meeting of the Highway Research Board, Washington, D.C. (January 1966).
- Brigham, E. F. A Model of Residential Land Values, Santa Monica, California: The Rand Corporation (1964).
- Chapin, F. Stuart, Jr., and Shirley F. Weiss in collaboration with Thomas G. Donnelly. Factors Influencing Land Development: Evaluation of Inputs for a Forecast Model, An Urban Studies Research Monograph (Chapel Hill, North Carolina: Institute for Research in Social Science, University of North Carolina, in cooperation with Bureau of Public Roads, U. S. Department of Commerce, 1962).
- Chapin, F. Stuart, and Shirley F. Weiss. <u>Some Input Refinements for a Residential Model</u>, Institute for Research in Social Science, Chapel Hill, North Carolina: University of North Carolina (1965).
- Chapin, F. Stuart, Jr.; Thomas G. Donnelly; and Shirley F. Weiss, in collaboration with Andrei Rogers. The Time Lag of Factors Influencing Land Development. A Research Investigation of the Center for Urban and Regional Studies (Chapel Hill, North Carolina: Institute for Research in Social Science, University of North Carolina, in cooperation with Bureau of Public Roads, U. S. Department of Commerce, 1963).
- Crecine, J. P. "A Time-Oriented Metropolitan Model for Spatial Location," <u>CRP Technical Bulletin No. 6</u>, Department of City Planning, Pittsburgh (1964).
- Donnelly, Thomas G.; F. Stuart Chapin, Jr.; and Shirley F. Weiss. A Probabilistic Model for Residential Growth. An Urban Studies in Research Monograph (Chapel Hill, North Carolina: Center for Urban and Regional Studies, Institute for Research in Social Science, University of North Carolina, in cooperation with Bureau of Public Roads, U. S. Department of Commerce, 1964).
- Duke, R. L. Gaming-Simulation and Urban Research, Michigan State University, Institute for Community Development and Service, East Lasing, Michigan (1964).
- Duncan, Beverly. 'Variables in Urban Morphology,' Contributions to Urban Sociology, University of Chicago (1964), pp. 17-30.



- Garner, B. J. "Differential Residential Growth of Incorporated Municipalities in the Chicago Suburban Region." Mimeographed. Department of Geography, Northwestern University, Evanston (1960).
- Garrison, William L. "Influence of Highway Improvements on Urban Land: A Graphic Summary," <u>Highway Economic Studies</u>, Seattle: University of Washington (1958).
- Land Use in the Vicinity of Freeway Interchanges--Models of Land Use Developments and Related Traffic Flows, "Evanston: Northwestern University (May 1961).
- Goldner, William and Ronald S. Graybeal. "The Bay Area Simulation Study: Pilot Model of Santa Clara County and Some Applications," Berkeley: Center for Real Estate and Urban Economics, University of California (March 1965).
- Hamburg, J. R. and Robert H. Sharkey. "Land Use Forecast," Chicago Area Transportation Study Paper No. 3.2.6.10 (August 1, 1961).
- Harris, Britton. "A Model of Locational Equilibrium for Retail Trade," A
 Paper prepared for Seminar on Models of Metropolitan Land Use Development,
 Philadelphia: Institute for Environmental Studies, University of
 Pennsylvania (October 1964).
- Housing and Land Market," Philadelphia: Institute for Environmental Studies, University of Pennsylvania (July 1966).
- Transportation of Accessibility Measures," Pennsylvania-Jersey Transportation Study, <u>Pennsylvania-Jersey Paper #9</u>, Philadelphia: Delaware Valley Regional Planning Commission (August 14, 1961).
- Traffic Quarterly (April 1962), pp. 305-319.
- Pennsylvania-Jersey Transportation Study, Pennsylvania-Jersey Paper No. 20, Philadelphia: Delaware Valley Regional Planning Commission (November 1962).
- Paper presented at the Seminar on Metropolitan Planning," A Berkeley, Philadelphia: Institute of Urban Studies, University of Pennsylvania (March 1965).
- a Conference of the Committee on Urban Economics, Washington, D.C.: (January 1967).
- Pennsylvania-Jersey Transportation Study, Pennsylvania-Jersey Paper #7, Philadelphia: Delaware Valley Regional Planning Commission (June 1961).



- Harris, Britton. "Some Problems in the Theory of Intra-Urban Location,"
 Pennsylvania-Jersey Transportation Study, Pennsylvania-Jersey Paper #3,
 Philadelphia: Delaware Valley Regional Planning Commission (April 30, 1961).
- Jersey Transportation Study, <u>Pennsylvania-Jersey Program Review Memo No. 2</u>, Philadelphia: Delaware Valley Regional Planning Commission (February 26, 1963).
- ; Joseph Nathanson; and Louis Rosenburg. "Research on an Equilibrium Model of Metropolitan Housing and Locational Choice-Interim Report," Philadelphia: Institute for Environmental Studies, University of Pennsylvania (March 1966).
- Harris, Curtis C. A Stochastic Process of Suburban Development, Berkeley: Center for Real Estate and Urban Economics, University of California (1966).
- Hemmens, George C. "Survey of Planning Agency Experience with Urban Development Models, Data Processing and Computers," A Paper presented at the Highway Research Board Conference on Urban Development Models (June 1967).
- . The Structure of Urban Activity Linkayes, Chapel Hill, North Carolina: Center for Urban and Regional Studies (September 1966).
- Huff, David L. <u>Determination of Intro-Urban Retail Trade Areas</u>, Los Angeles: Real Estate Research Program, Graduate School of Business Administration, University of California (1962).
- Kain, J. F. A Multiple Equation Model of Household Locational and Tripmaking Behavior, Santa Monica: The Rand Corporation (April 1962).
- Central Business District Workers, Santa Monica: The Rand Corporation (April 1963).
- University of California (December 1961).
- Kaiser, Edward J. "Greensboro Land Values: 1963, Field Report and Procedural Manual," Environmental Engineering Policies and Urban Development Project, Center for Urban and Regional Studies, Institute for Research in Social Science, University of North Carolina, Chapel Mill, North Carolina (September 1, 1963).
- Knos, Duane F. <u>Distribution of Land Values in Topeka, Kansas</u>, Lawrence, Kansas: Center for Research in Business, The University of Kansas (1962).
- Lamb, Donald D. "Research on Existing Land Use Models," Southwestern Pennsylvania Regional Planning Commission (March 1967).
- Leven, Charles L. "Trends in Metropolitan Growth and City Form," Education for Architectural Technology. Conference Sponsored by Washington University, St. Louis and the AIA Educational Research Project (April 1966).



- Lowry, Ira S. "Design for an Intra-Regional Locational Model," Pittsburgh Regional Planning Association, Economic Study of the Pittsburgh Region, Working Paper No. 6 (September 1960).
- A Paper presented at the Highway Research Board Conference on Urban Development Models (June 1967).
- Niedercorn, J. H. and E. F. R. Hearle. "Recent Land-Use Trends in Forty-Eight Large American Cities," Santa Monica, California: The Rand Corporation (June 1963).
- Niedercorn, J. H. and J. F. Kain. <u>Changes in the Location of Food and General Merchandise Store Employment within Metropolitan Areas, 1948-1958</u>, Santa Monica, California: The Rand Corporation (August 1962).
- Niedercorn, J. H. and J. F. Kain. <u>Suburbanization of Employment and Population</u>, 1948-1975, Santa Monica, California: The Rand Corporation, U. S. Air Force Academy (January 1963).
- Olsson, Gunnar. "Deductive and Inductive Approaches to Model Formulation," Paper Presented at the First Scandinavian-Polish Regional Science Seminar, Szczecin.
- Post, Rosalyn B. "Criteria for Theories of Urban Spatial Structure: An Evaluation of Current Research." Unpublished manuscript. Chapel Hill, North Carolina: Department of City and Regional Planning, University of North Carolina (1964).
- Silver, J. and J. Stowers. "Population, Economic and Land Use Studies in Urban Transportation Planning--An Evaluation of Current Practices and Recommendations for a Future Program," U. S. Bureau of Public Roads (May 3, 1963).
- Simmons, J. "The Changing Pattern of Retail Location," Research Paper No. 92, University of Chicago, Department of Geography (1964).
- Seidman, David R. "A Decision-Oriented Model for Urban Growth," Paper presented to the Fourth Annual Conference of the International Federation of Operations Research Societies (Boston: August 29-September 2, 1966).
- "Report on the Activities Allocation Model," Pennsylvania-Jersey Transportation Study, Pennsylvania-Jersey Paper #22, Philadelphia: Delaware Valley Regional Planning Commission (November 1964).
- Thomas, E. N. and J. L. Schofer. "Toward the Development of More Responsive Urban and Transportation Models," Research Report, Evanston, Illinois: Northwestern University, The Transportation Center (April 1967).
- Traffic Research Corporation of New York, New York. Reliability Test Report:

 Empiric Land Use Forecasting Model. Report prepared by Traffic Research Corporation of New York, New York, for Boston Regional Planning Project.
- Traffic Research Corporation. "Review of Existing Land Use Forecasting Techniques," Boston Regional Planning Project, Massachusetts Transportation Commission (July 1963).



- Trevithick. Morris. "Land Use Analysis in Metropolitan Transportation Studies. "A Summary of Methods," <u>ITTE Intradepartmental Working Paper</u> No. 5 (December 1962).
- Wingo, Lowden, Jr. "The Uses of Urban Land: Past, Present, and Future,"

 Resources for the Future Reprint No. 39, Washington, D.C. (July 1963).
- Yuill, R. S. "A Simulation Study of Barrier Effects in Spatial Diffusion Problems," Michigan Inter-University Community of Mathematical Geographers Discussion Papers, V (1965).
- Zwick, C. J. Models of Urban Change: Their Role in Urban Transportation Research, Santa Monica, California: The Rand Corporation (October 1962).

Dissertations:

- Alonso, William. "A Model for the Urban Land Market: Location and Densities of Dwellings and Businesses." Unpublished Ph.D. dissertation, University of Pennsylvania (1960).
- Brodsky, Harold. "Location-Rent and Journey to Work Patterns in Seattle." Unpublished Ph.D. dissertation, University of Washington (1966).
- Corbin, P. B. "An Analysis of a Residential Field." Unpublished Ph.D. dissertation, University of Minnesota (1968).
- Hansen, Willard B. "Residential Extension in a Metropolitan Region: A Regression Analysis of Subregional Development Rates in the Philadelphia Area During the 1940-50 and 1950-55/56 Periods." Ph.D. dissertation at the University of Pennsylvania (1961).
- Koepke, R. L. "The Location of Branch Manufacturing Plants within Suburban Metropolitan Chicago, 1958-62." Unpublished Ph.D. dissertation, University of Illinois (1966).
- Kulkarni, G. S. "Food Chain Store Location Strategy in Metropolitan Pittsburgh." Unpublished Ph.D. dissertation, University of Pittsburgh (1965).
- Lowry, Ira S. "Residential Location in Urban Area." Ph.D. dissertation, University of California, Berkeley (1959).
- Morris, A. S. "The Internal Differentiation of a Type Area: The CBD." Unpublished Ph.D. dissertation, University of Wisconsin (1966).
- Rogers, A. "A Stochastic Analysis of Intraurban Retail Spatial Structure." Unpublished Ph.D. dissertation, University of North Carolina, Chapel Hill (1964).



18.

CFL Exchange Bibliography #194

COUNCIL OF PLANNING LIBRARIANS

Exchange Bibliography #194

THE APPLICATION OF MODELS TO THE PLANNING PROCESS WITH SPECIAL EMPHASIS ON LAND USE

Additional co, ies available from:

Council of Planning Librarians Post Office Box 229 Monticello, Illinois, 61856

for \$2.00.

